

COPY OF ALL CLAIMS

1. A layered composite useful for flooring coverings and wall panels with at least one decorative surface and consisting essentially of a backing layer of a reinforced thermoplastic polymer which is not polypropylene, a decorative layer arranged thereupon and a heat-cured layer applied to the decorative layer wherein the total thickness of the layered composite is from 1 to 20 mm and whose backing layer makes up at least 80% of the thickness wherein said reinforced thermoplastic polymer comprises polyethylene, polyvinyl chloride, polyesters, polycarbonates, polyacrylates, polymethacrylates, polyamide, polyurethane, a polyacetal and/or polystyrenes,

which layered composite is prepared by

heating said reinforced thermoplastic polymer to at least 180°C in an extruder and then,

under a pressure of at least 80N/cm², introducing said heated reinforced thermoplastic polymer into an injection molding chamber of an injection-molding machine into which the films for the decorative layer and the heat cured layer and an optional heat-cured layer and/or an intermediate layer,

applying to the layers in the injection-molding machine a holding pressure of at least 10 N/cm²,

while maintaining said pressure, cooling to a temperature not below 60°C for a period of not more than 4 minutes, and then

removing the layered composite from the injection-molding chamber.

2. A layered composite as claimed in claim 1, where a decorative layer and a heat-cured layer applied to the decorative layer are present on each side of the backing layer made from said thermoplastic polymer reinforced thermoplastic polymer.
3. A layered composite as claimed in claim 1, where an intermediate layer is also inserted as bonding material between the backing layer and the decorative layer.
4. A layered composite as claimed in claim 1 and comprising a polystyrene backing layer.
5. A layered composite as claimed in claim 1 and comprising a polybutylene terephthalate backing layer.
6. A layered composite as claimed in claim 1 and comprising a polyoxymethylene backing layer.
8. A layered composite as claimed in claim 1, where the decorative layer comprises of a polymeric material which has an embossment or a coloration or a combination of both, or of paper or of a fabric or of a paper-like or fabric-like or wood-like material.
9. A layered composite as claimed in claim 1, where the heat-cured layer arranged on the decorative layer comprises of a thermosetting polymeric material, crosslinked by exposure to pressure or heat during the production of the layered composite.
10. A layered composite as claimed in claim 1, whose total thickness is from 1 to 20 mm and whose backing layer makes up at least 80% of the total thickness.

13. A layered composite as claimed in claim 1 wherein the reinforcing material of the reinforced thermoplastic polymer comprises barium sulfate, magnesium hydroxide, talc, wood, flax, chalk, glass fibers or glass beads.